

Watauga County Natural Areas Inventory

GILLEY FIELD STATION FORESTS

Site Significance: County

Quadrangle: Todd

Size: 155 acres

Ownership: State of North Carolina and Private

SIGNIFICANT FEATURES: The site contains fairly good quality examples of three fairly common forest communities: Rich Cove Forest, Acidic Cove Forest, and Chestnut Oak Forest. Intact forests are becoming increasingly uncommon along the South Fork New River. The Significantly Rare warbling vireo (*Vireo gilvus*) has been documented from this stretch of the South Fork New River.

LANDSCAPE RELATIONSHIPS: The site borders on the state significant South Fork New River Aquatic Habitat. It has no direct connection to other significant sites.

SITE DESCRIPTION: The site is situated on and adjacent to the Gilley Field Station of Appalachian State University at a sharp bend in the South Fork New River near Todd. It consists of slopes and small coves above the river separated by a large clearing. The slopes support fairly mature examples of Rich Cove Forest and Acidic Cove Forest. Ridgetop areas at the south end of the site support mature Chestnut Oak Forest. The Significantly Rare warbling vireo (*Vireo gilvus*) has been documented from hardwoods along the river.

The Rich Cove Forest is dominated by a mixture of red maple (*Acer rubrum*), yellow poplar (*Liriodendron tulipifera*), sweet birch (*Betula lenta*), and red oak (*Quercus rubra*). Other characteristic trees such as Fraser magnolia (*Magnolia fraseri*), basswood (*Tilia heterophylla*), and American beech (*Fagus grandifolia*), alternate-leaved dogwood (*Cornus alternifolia*), cucumber-tree (*Magnolia acuminata*), witch-hazel (*Hamamelis virginiana*), and Canada hemlock (*Tsuga canadensis*) are present. Shrubs are very sparse, but herbs and ferns are fairly abundant. Those present include New York fern (*Thelypteris noveboracensis*), Christmas fern (*Polystichum acrostichoides*), marginal wood-fern (*Dryopteris marginalis*), maidenhair fern (*Adiantum pedatum*), jack-in-the-pulpit (*Arisaema triphyllum*), black cohosh (*Cimicifuga racemosa*), and white heart-leaved aster (*Aster divaricatus*), and others. Tangles of the cove-inhabiting vine Dutchman's-pipe (*Aristolochia macrophylla*) occur in places.

Acidic Cove Forest occupies some of the more protected areas on the slopes. It has a hardwood canopy similar to that of Rich Cove Forest and a characteristically dense layer of great rhododendron (*Rhododendron maximum*), which precludes herbaceous plants in most areas. Openings in the dense shrubs support herbs and ferns such as round-leaved violet (*Viola rotundifolia*), galax (*Galax urceolata*), Christmas fern, marginal wood-fern, white heart-leaved aster, downy rattlesnake plantain (*Goodyera pubescens*), and other typical species.

Chestnut Oak Forest occurs on drier ridgetop areas. It has a canopy dominated by chestnut oak (*Quercus montana*), scarlet oak (*Quercus coccinea*), and red maple (*Acer rubrum*). Dense